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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,520	10/15/2003	James Crawford	TDSN.P0001	5246
48947	7590	05/24/2005	EXAMINER	
STATTLER, JOHANSEN, AND ADELI LLP 1875 CENTURY PARK EAST SUITE 1050 CENTURY CITY, CA 90067			CHISDES, SARAH J	
			ART UNIT	PAPER NUMBER
			2877	

DATE MAILED: 05/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/687,520

Applicant(s)

CRAWFORD ET AL.

Examiner

Sarah J. Chisdes

Art Unit

2877

PM

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: NPL document.

DETAILED ACTION

Drawings

The drawings submitted on October 15, 2003 have been received and have been placed of record in the file. The drawings are acceptable.

Claim Objections

Claim 6 is objected to because of the following informalities: Claim 6 recites the limitations of an "excitation filter" in line 2 of the claim and an "emission filter" in line 3 of the claim, which are to be aligned with other elements by a chassis. There is insufficient antecedent basis for these limitations in the claim. If the claim is intended to depend on claim 5, rather than claim 3 as stated, the filters have been previously claimed. The examiner assumes that claim 6 is intended to depend on claim 5, and has examined it accordingly. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8, 10, 23-27, 29 and 32 rejected under 35 U.S.C. 102(b) as being anticipated by Byers (US 4,553,034).

In figure 2, Byers discloses a fluorometer having a distal end (30), a light source (22), and a light detection circuit (36, 38, 40, 42) , as specified in claim 1, as well as two orifices optically coupled to the light source and detector by fiber optic cables (26, 32), as specified in

Art Unit: 2877

claims 2, 3, 4, 7, 8, and 10, where the claimed orifices are understood to be an inherent property of the components of the disclosed distal end, or no light could get through and the device would not work, and the fiber optic cables are understood to be light-passing conduits. Also disclosed in Figure 2 are emission and excitation filters (24, 34), as specified in claim 5, and a flange (28) that acts in the same manner as the chassis to align the optical system, as specified in claim 6.

Claims 23-27 and 29 comprise the same elements of claims 1-8, and 10, but are claimed as part of a spectrometer, rather than a fluorometer. A fluorometer is a type of spectrometer, therefore the elements that meet the claim of a fluorometer also meet the claim of the more general spectrometer. Hence, the limitations of claims 23-27 and 29 are met by Byers according to the rationale set forth above.

Claim 32 limits the elements of claim 23 to being part of a fluorometer. Those elements have been disclosed by Byers as part of a fluorometer, as set forth above, hence all the limitations of the claim have been met.

Claims 18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Watts (US 5,013,150).

In Figure 1, Watts discloses a fluorometer with a dual optical fiber probe which has two orifices on the side that is to be placed next to the analyte. The fluorometer is provided with a light source (16), an optical fiber (12), which acts as conduit for transmitting light from the source to the first orifice (22), a second orifice (24) coupled to an optical fiber (14), which acts as a conduit for transmitting light from the sample, and a detector (18) to detect the light brought to it via the optical conduit. Hence, all of the elements of claims 18 and 19 have been met by Watts.

Claims 23, 31 and 33-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Shea (US 3,665,201).

In Figure 3, Shea discloses a turbidimeter (38), as specified by claim 31, having a housing (44) with a distal end with a shape adapted to insert into system of pipes, a light source (52), and a detector (64), thereby meeting the limitations of the spectrometer specified in claim 23, on which claim 31 depends, and the limitation that the spectrometer be a turbidimeter, as specified in claim 31.

Figure 3 additionally discloses as adjoining member (42) for connecting two pipes that allows material to flow and further comprises a chamber (48) that is open on one end and terminates on the flow passageway on the other end, where the spectrometer is inserted into the chamber, as specified by claim 33.

The spectrometer disclosed in Figure 3 has the housing (44) with a distal end with a shape adapted to insert into system of pipes, a light source (52), and a detector (64), as specified in claim 34, and is fastened to the adjoining member by flanges and bolts (column 2 lines 69-70), where the bolts and the nuts that hold them in place inherently have corresponding threads, thereby meeting the limitations of claims 35 and 36.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12-17, and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Byers in view of Shea.

Regarding claims 12-17, Byers discloses in Figure 2 a fluorometer meeting all the limitations of claim 2, on which claim 12 depends, and claim 14 (housing with distal end (30), light source (22), and light detection circuit (36, 38, 40, 42)), but does not disclose an adjoining member for connecting two pipes with all the limitations set forth in claims 12-13 and 15-17. Shea, in Figure 3, discloses an adjoining member (42) for connecting first and second pipes (both labeled 40), having a passageway that allows non-solid material to flow between the pipes and across the distal end of the spectrometer (claim 12), the adjoining member further having a chamber (48) that is open on one end and terminates on the flow passageway on the other end, where a spectrometer is inserted into the chamber (claims 13 and 17). Additionally Shea discloses that the spectrometer is fastened to the adjoining member by flanges and bolts (column 2 lines 69-70), where bolts and the nuts that hold them in place inherently have corresponding threads (claims 15 and 16). It would have been obvious to one of ordinary skill in the art at the time of invention to use an adjoining member to securely fasten the fluorometer into the system of pipes to facilitate insertion of the fluorometer into the system, to reduce costs by not requiring a long segment of special piping, to protect the fluorometer by securely fastening it to the pipe system, and to ensure consistency of readings by keeping the spectrometer fixed in one position.

Claims 20 and 21 speak to the method of using the apparatus specified in claims 13-16, with the stipulation that the fastening between the fluorometer and the adjoining member be a material-tight seal. The fastening devices disclosed by Shea (flanges and bolts) result in a

Art Unit: 2877

material tight seal, even though Shea does not specify it as such. Claims 20 and 21 are therefore not patentably distinct from claims 13-16, and are rejected on the basis set forth above.

Claims 9, 11, 28, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Byers in view of Maczura (US 6,836,325). Byers discloses all the elements in claims 8, 10, 27, and 29, on which claims 9, 11, 28, and 30 depend respectively, as set forth above, but does not disclose the light source positioned within a first orifice (claims 11 and 30) nor a detection circuit positioned in a second orifice (claims 9 and 28), where the end of each orifice toward the sample to be analyzed is covered with a seal that allows the light of interest to pass through. In Figure 1, Maczura discloses a spectrometer, which could be a fluorometer, with a light source (10) in an orifice (cavity; column 5 line 47) and a detection circuit (52) in a separate orifice (65), where each orifice has a window (12, 13), to prevent debris from entering the cavity (column 5 lines 22-23). Because the window prevents debris from entering the orifices, it acts as a seal; moreover because it is described as a window, it is inherently transparent to light in the wavelength range of interest. It would have been obvious to one of ordinary skill in the art at the time of invention to place the light source and detector in orifices at the distal end of the spectrometer to reduce the amount of light lost via transmission through an optical fiber (or conduit) thereby increasing the amount of light incident upon the sample and consequently transmitted to the detector in order to increase the signal received by the detector.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Byers in view of Shea, in further view of Skoog.

Claim 22 depends on claim 20, which has been rejected above as unpatentable over Byers in view of Shea. Byers in view of Shea disclose all the elements of claim 20, but do not disclose

Art Unit: 2877

the method of calibration in which the fluorometer is placed sequentially in two standards of known concentration. Skoog teaches that quantitative analytical methods are generally based on calibrating an instrument by collecting data on a series of standards of known concentration. It would have been obvious to one of ordinary skill in the art at the time of invention to calibrate the spectrometer using a standard method in order to compensate for drift in instrument response due to aging of the light source and detector, clouding of the light-transmitting window(s) over time, temperature changes, and electrical fluctuations.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah J. Chisdes whose telephone number is 571-272-8540. The examiner can normally be reached on 9am -6:30pm Monday through Thursday and 9am-5:30pm on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley Jr. can be reached on 571-272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

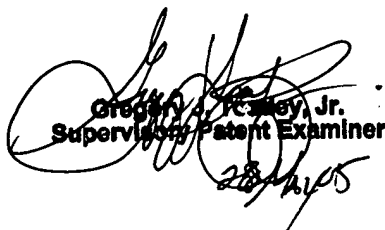
Application/Control Number: 10/687,520
Art Unit: 2877

Page 8



Sarah J. Chisdes, Ph.D.
Examiner
Art Unit 2877

May 19, 2005



Gregory A. Kelley, Jr.
Supervisory Patent Examiner
28 May 05